

REMARKS

The Examiner's Office Action dated February 13, 2003 has been received and its contents reviewed. By this amendment and for the Examiner's convenience, claims 1-6 have been presented in accordance with the guidelines and waived provisions of 37 C.F.R. 1.121 promulgated in the USPTO announcement of January 31, 2003. In light of the above amendments and for the reasons detailed below, reconsideration of the present rejections of record is respectfully requested.

With regard to the Examiner's rejection of claims 3 and 6, under §112 (second paragraph), the deletion of the term "satisfactorily" in claims 3 and 6 is believed to have rendered moot this rejection.

With regard to the Examiner's rejections of claims 1, 2 and 5, under §102(a), as being anticipated by the teachings of Stengl et al. ('062) and claims 3, 4 and 6, under §103(a), as being obvious in view of the teachings of Stengl et al. ('062) combined with Muraki ('725), the Applicants respectfully traverse each of these rejections.

The present claims recite an electron beam proximity exposure apparatus and method in which a blanker electrode (66) and a blanker aperture (68) take on-off control of emission of the electron beam. That is, as noted in the specification, page 8, lines 10-12, and page 9, lines 17-26, by setting the deflecting direction by the blanker to be the scanning direction the on-off control can be high, i.e., the amount of deflection of the beam to control the application of the beam can be small.

From a review of the Stengl reference, it is clear that such a feature is not taught (explicitly or implicitly) by the patentee. Further, the patentees teach a coaxial hollow cylinder (column 2, lines 31-36; column 7, lines 7-22) which, contrary to the Examiner's assertion, does not correspond to the electrostatic cylindrical lens of the claims. Specifically, the coaxial hollow cylinder of the Stengl electron beam exposure device is for the purpose of producing a parallel beam (Figure 2; column 6, lines 30-57), while the presently claimed beaming shaping device of the electron beam proximity exposure apparatus is directed to a different purpose, i.e., shaping the beam with a particular width and length dimensions, to a different structure, i.e., cylindrical lens, and to a different effect, i.e., permits rapid on-off control of emission of the electron beam when employed with the blanker electrode and blanking aperture.

The Muraki reference, cited to teach an interval between a scan line and a subsequent scan line (Figure 9B, element EF), does not cure the deficiencies of Stengl noted above by teaching the particularly claimed blanker electrode and blanking aperture or the claimed relationship of the width and length of the electron beam formed by the shaping device. Further, Muraki is related to an exposure process for repeated exposure of a sub-field (Figure 9A, elements EF) and not a process of scanning a single chip multiple times. Therefore, not only would it not have been obvious to combine the teachings of Muraki with the teachings of Stengl since different exposure processes are the subject of each patent document, but even if combined, the combination would not teach or suggest each feature of the claimed invention.

Since neither Stengl nor Muraki, alone or in combination, teach (or suggest) each feature of the claimed invention, neither *anticipation* nor a *prima facie* case of obviousness has been established by the references, and the rejections of claims 1, 2 and 5, under § 102(a), and claims 3, 4 and 6, under § 103(a), respectively, are improper and must now be withdrawn.

In view of the above amendments, each of the pending claims 1-6 are now considered to be in condition for allowance. However, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,

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